



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/666,664	09/17/2003	John E. Eng	BOE,109/01-947	8998
55132 7590 04/10/2008 WILDMAN HARROLD ALLEN & DIXON LLP AND THE BOEING COMPANY 225 W. WACKER DR. CHICAGO, IL 60606				
EXAMINER				
ELDRED, JOHN W				
ART UNIT		PAPER NUMBER		
3641				
MAIL DATE		DELIVERY MODE		
04/10/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/666,664

Applicant(s)

ENG, JOHN E.

Examiner

John Woodrow Eldred

Art Unit

3641

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 January 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 1-10 and 15-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-14, 20-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/S508)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 11- 14 and 20-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Caldwell (7,036,773) in view of Bomble et al (5,613,653) and further in view of Boyle et al (5,172,717).

Cadwell discloses a system for communication on a spacecraft comprising a spacecraft (i.e. Space Shuttle, Ariane, Delta, Atlas, Titan, Pegasus, Taurus, Proton) each of which has a communication bus and a telemetry and command processor; a plurality of payloads 20 mounted on the spacecraft; and a second (e.g. "central") bus interface which is connected to the payloads and comprises combined power and communication wires (see Figure 3 and column 6, lines 53-column 7, line 5 and column 8, lines 10-13.) Since the communications are able to be understood by the various elements, it is inherent that there is a "decoder for processing the command sent from the central bus interface unit." Cadwell fails to specify that the spacecraft bus is coupled to the central bus interface. Bomble et al teach that it is well known to have communication between a spacecraft communication system (satellite) and payload communication system (launcher). See especially column 6, lines 42-56. Motivation to combine is the improved performance and control available when data and commands can be passed from the transporting spacecraft to the payloads in order to improve the deployment and functioning of the payloads. To employ the teachings of Bomble et al on the spacecraft system of Caldwell and have the two bus interface systems coupled to each other is considered to have been obvious to one having ordinary skill in the art.

Caldwell fails to disclose that there is a switch 559 for interrupting the power on the combined power and communication wire in the process of sending signals. Boyle et al teach that it is well known to utilize a switch to interrupt power in a combined power/communication system. See Figure 10 and column 29, lines 39-50. Motivation to combine is the improved signal condition available when the power is not present on the wire being used for communication. To employ the teachings of Boyle et al on the system of Caldwell and have a switch to interrupt power is considered to have been obvious to one having ordinary skill in the art.

3. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Caldwell (7,036,773) in view of Bombléd et al (5,613,653) and Boyle et al (5,172,717) as applied to claims 11-14 and 20-25 above, and further in view of Santhoff et al (7,027,483).

Caldwell fails to disclose that the communication or telemetry is sent using a spread spectrum signal. Santhoff et al teach that it is well known to use a spread spectrum signal to send communications over a wire communication system. See column 12, line 59-column 13, line 16. Motivation to combine is the teaching of Santhoff et al that spread spectrum signals improve performance by enhancing "the noise immunity of the transmission, increasing signal reliability". To employ the teachings of Santhoff et al and have a spread spectrum signal with the communication system of Caldwell is considered to have been obvious to one having ordinary skill in the art.

4. Applicant's arguments filed 1-29-08 have been fully considered but they are not persuasive. The argument that Boyle does not supply the missing limitations concerning interrupting the power supply during transmission of signals because Boyle has a system with both a low and high voltage power supply is flawed, since Boyle is not being used to supply the basic architecture of the communication system but merely to teach that using a switch to interrupt a power supply on a wire while a communication signal is being transmitted is a known and obvious limitation.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Woodrow Eldred whose telephone number is (571)272-6901. The examiner can normally be reached on Monday to Thursday, from 8:00 a.m. to 5:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Carone can be reached on 571-272-6873. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John Woodrow Eldred/
Primary Examiner, Art Unit 3641
JWE